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7. A scanning probe microscope comprising:
 a frame;
 a positioning scanner attached to said frame;
 a scanning probe coupled to said positioning scanner;
 at least three support members, each having first and
 second ends, each engaged with and passing through
 said frame and including magnetic portions at its second
 end;
 a sample stage fabricated of a material attracted to said
 magnetic portions, said sample stage disposed in a
 stage plane below said scanning probe, said sample
 stage is removably attached to said support members;
 a cover attached to said frame with a hinge;
 at least one of said support members engaged with a
 mechanical actuator disposed on said cover; and
 said mechanical actuator provides a drive in a direction
 generally orthogonal to said stage plane to said at least
 one of said support members so as to control a distance
 between said scanning probe and said sample stage.
 8. A scanning probe microscope according to claim 6
 wherein said mechanical actuator is a motor and said motor

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is engaged with said at least one of said support members
 through a magnetic clutch.

9. A scanning probe microscope according to claim 8
 further comprising a chamber removably attached to said
 frame for surrounding and encapsulating said sample stage.

10. A scanning probe microscope according to claim 9
 further comprising a glove box loading system be removably
 attached to said microscope and to surround and hermeti-
 cally seal a volume containing said chamber, said glove box
 loading system including:

sealing means for hermetically sealing said glove box
 loading system to said scanning probe microscope, said
 sealing means being removable from said scanning
 probe microscope and

glove means permitting a user outside said glove box
 loading system to manipulate items inside said glove
 box loading system without interrupting the hermetic
 seal provided by said sealing means.

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